



NEWSLETTER OF THE LONDON CHAPTER,
ONTARIO ARCHAEOLOGICAL SOCIETY

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January 1997

97-1

CHANGING WATER LEVELS IN THE CENTRAL GREAT LAKES AND THE EARLIEST HUMAN OCCUPATIONS OF SOUTHWESTERN ONTARIO

Dr. Christopher J. Ellis
Thursday, February 13th, 8:00 PM
London Museum of Archaeology

For our February speaker night we are pleased to present Dr. Christopher Ellis, Chair of the Anthropology Department, U.W.O. Chris' talks are always entertaining and informative so come on out to the **LONDON MUSEUM OF ARCHAEOLOGY**, 1600 Attawandaron Road (near the corner of Wonderland and Fanshawe Park Road in the northwest end of the city). Meeting time is 8 PM.

Next month (March 13th) our speaker is Rob MacDonald. His talk is entitled "Drink Deep Or Taste Not The Pierian Spring": Musings on Environmental Archaeology in Southern Ontario.

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ANNUAL RATES

Individual.....	\$15.00
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Institutional.....	\$21.00
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EXECUTIVE REPORT

It is the beginning of 1997 (Happy New Year!) and that means it is time to renew your London Chapter membership!

The City of London is looking for input from the general public regarding the Victoria Park Master Plan. Everyone has an opinion on what should be done with the park and you can direct your comments to Mark Gladysz, Heritage Planner for the City of London at 661-4980. Two information sessions are planned for February 13: the first is from 3 to 5pm; and the second is from 6 to 8pm. These sessions will be held in the 2nd floor Committee Room 1 at City Hall.

Members of the London Chapter are riding the "Information Highway". Jim Keron and Len Fluhrer have created a "page" which contains information on London Chapter publications, projectile point types, Chapter meeting dates, etc. This page has not been set up to receive e-mail messages but to be viewed only. The address is <http://yoda.sscl.uwo.ca:80/assoc/oas/lonoas.html>. Thanks to Jim and Len for all their effort.

Although the London Chapter does not have an e-mail address, many of its members do. Anyone who wishes to have their e-mail address published in the next membership list in KEWA should phone or mail this information (the slow old fashioned way) to the executive.

SOCIAL REPORT

Outside, winter is going strong, meanwhile, indoors the debate will be raging at *Heritage: the Next Generation*, a conference on the future of heritage conservation in Ontario. This is a timely event considering the peculiar bent of the current provincial government. This conference is a two day event to be held at the Ontario Heritage Foundation, 10 Adelaide Street East, Toronto. The cost is \$150 and includes presentations, panel discussions and a reception on Friday, February 14 and case studies, lunch and a workshop on Saturday, February 15. For more information call Dena at (416) 325-5000 (e-mail: doroszd@heritage.gov.on.ca).

A Call for Papers has gone out for the Canadian Archaeology Conference to be held in Saskatoon on May 7-11. A symposium entitled "Traces of Childhood: Studies in the Archaeology of Children" seeks to address the roles of children in (pre)historic society through the analysis of the material remains of their activities. Those interested in presenting a paper in this symposium should forward their titles to either: Bill Fox, P.O. Box 2444, Inuvik, NT, X0E 0T0, fax: (403) 979-4491 e-mail bill_fox@pch.gov.ca; or, Patricia Smith, McMaster University, Department of Anthropology, CNH, Rm 524, 1280 Main Street West, Hamilton, ON, L8S 4L9, fax (905) 522-5993, e-mail smithpe@mcmaster.ca.

EDITORS' REPORT

This month's article by Mark and Dana details results of a salvage excavation of the Cider site, a multi-component site in the Town of Ancaster. Excavations were undertaken on behalf of the Ministry of Transportation.

THE CIDER SITE, A SMALL POINT LATE ARCHAIC COMPONENT IN THE TOWN OF ANCASTER

Mark Borland and Dana Poulton

INTRODUCTION

This article describes the results of excavations on one of a series of prehistoric sites located within the future interchange of Highway 6 (New), Highway 53 and Highway 403. The proposed interchange forms part of Lot 46, Concession III, Town of Ancaster, Regional Municipality of Hamilton-Wentworth (Figure 1). Survey of the property was carried out on a sporadic basis by archaeological staff of the Ministry of Transportation (MTO) between 1986 and 1993 as part of the environmental assessment of the Highway 6 (New) Ancaster to Caledonia corridor. This resulted in the discovery of 26 archaeological resources within the proposed interchange (Ambrose 1986, Hagerty and Murphy 1994).

Twenty-one of the 26 sites in the proposed interchange were identified as potentially significant resources which would be subject to impacts from construction. All of these sites required Stage 3 (test) and potentially Stage 4 (mitigative) excavations. Ten of the 21 sites were subsequently subjected to more intensive investigations on behalf of the Ministry of Transportation by D.R. Poulton & Associates Inc. in 1993-1994. The Cider site (AhGx-339) is one of those.

The Cider site was discovered in 1992 during the course of Stage 2 survey by archaeological staff of MTO (Central Region). The initial test pit survey was followed by ploughing and a controlled surface collection of the site. Subsequent Stage 3-4 excavations involved a total of 183 square metres, and recovered 1750 specimens, all of which consist of chipped lithic tools and debitage.

The investigations indicate that the Cider site represents a small multi component prehistoric site. Diagnostic remains from the site include cultural diagnostics of the Early, Middle and Late Archaic periods. The most recognizable component pertains to a hunting camp of the Small Point occupation of the Late or Terminal Archaic represented by projectile points of the Crawford Knoll type. While the Cider site represents a useful addition to the limited inventory of Small Point sites, the multi-component nature of the site also illustrates the difficulties of interpreting prehistoric settlement patterns in Ancaster, an area characterized by intensive land use and repeated occupations in prehistoric times.

LOCATION AND DESCRIPTION

The Cider site is located in the Whaley orchard, an abandoned apple orchard (Figures 1-2). The site is situated approximately 80 metres north of Highway 53 and 120 metres east of Ancaster Creek. Although the area has been in orchard for several decades, all the lands containing Cider and the other sites investigated were formerly cultivated.

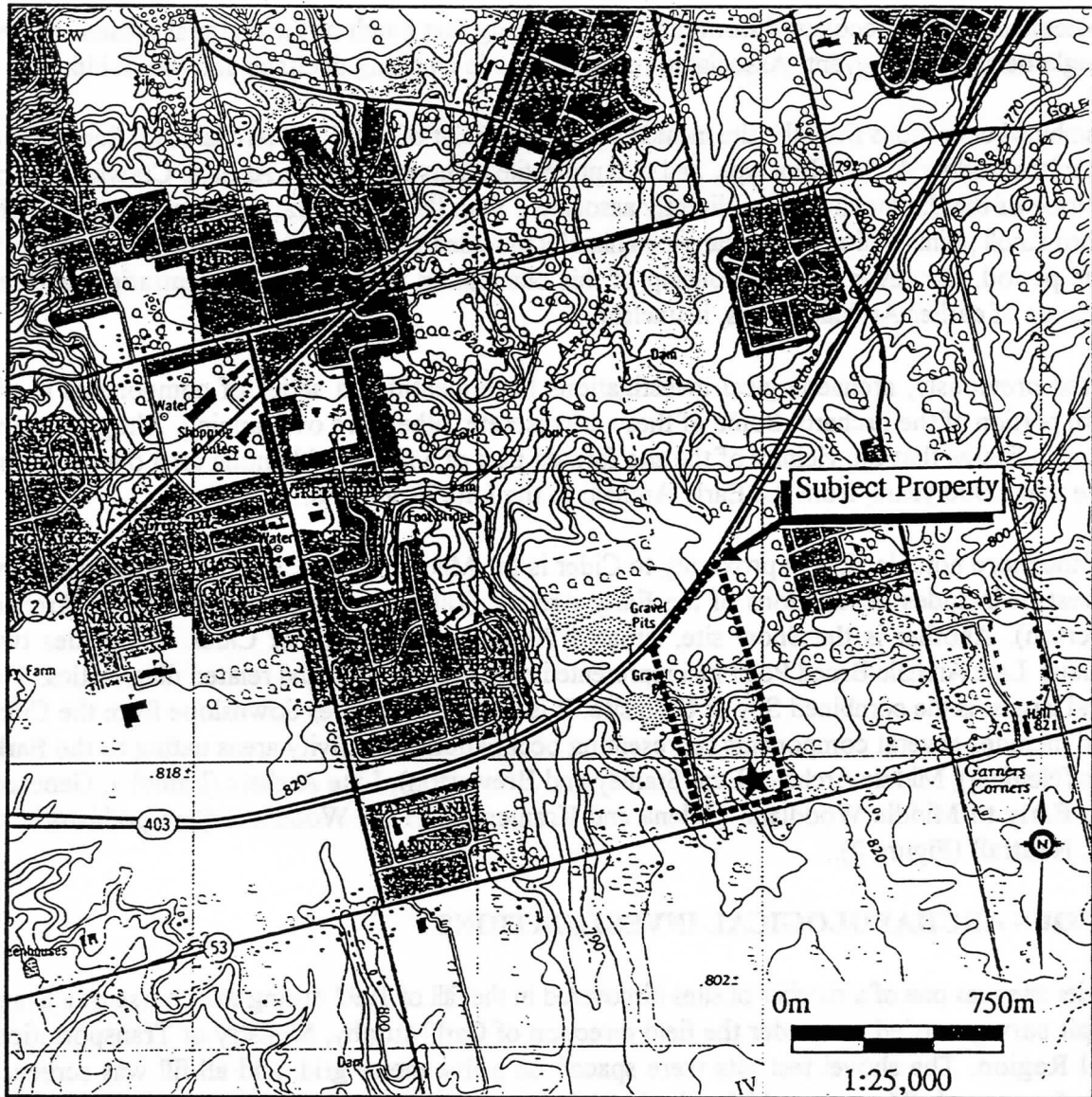


Figure 1 Location of the Cider Site

The site is situated in a level area bounded to the west by a break-in-slope which declines toward Ancaster Creek. Soil in the field is a complex of Grimsby sandy loam and Brant silt loam (Presant et al. 1965: map). These are brunisolic gray-brown podzolic soils. The Grimsby-Brant complex is almost always associated with Springvale or Ancaster series soils (Springvale in this case). The Grimsby-Brant complex soils are generally on steep slopes, have a marked increase of clay in the upper B horizon, and are not underlain by gravel (Presant et al. 1965:46,58,63).

Excavations of the Cider site revealed the presence of a subsurface feature associated with a concentration of cultural material. This area produced a disproportionate amount of the

archaeological remains recovered from the site, indicating that much of the material present related to a single occupational event. Associated remains include chipping debitage and rough bifaces.

The combined collections from the site include a projectile point of the Early Archaic Big Sandy type, a point of the Middle Archaic Eva type, and two projectile points of the Late Archaic Crawford Knoll type. None of the diagnostics were directly associated with the concentration. The presence of the Crawford Knoll points indicates that the site minimally included a Small Point occupation of the Late Archaic period. However, the relationship of this occupation to the main concentration, and the significance of earlier Archaic points, is unclear.

As stated previously, archaeological investigations have identified a series of components in the southern portion of the orchard. Some of these are discrete; others are overlapping. Altogether, the evidence indicates that the vicinity of the site formed part of a favoured hunting area over a period of more than 9000 years, from the Early Archaic to the Late Woodland.

One of the more notable sites in proximity to Cider is the MacIntosh site, situated 20 metres to the northwest: it includes occupations of the Early Archaic (Bifurcate Horizon) and Middle Archaic (Brewerton). Another is the Snow site, situated 70 metres northwest of Cider. It includes two contiguous Late Archaic Broad Point loci represented by Genesee points and related diagnostics. The third and largest is the combined Spy & Crab site. It is located 75 metres downslope from the Cider site and includes several components representing occupations or activity areas dating to the Early Archaic (Nettling), Middle Archaic (Eva, Stanley and Brewerton), Late Archaic (Lamoka, Genesee, Innes), Early to Middle Woodland (Adena and Kramer) and Late Woodland (late prehistoric or historic Neutral) (Figure 2).

PREVIOUS ARCHAEOLOGICAL INVESTIGATIONS

The Cider site was one of a number of sites discovered in the fall of 1992 during the course of a Stage 2 test pit survey carried out under the field direction of Carl Murphy, Ministry of Transportation, Central Region. The shovel test pits were spaced on a five metre grid, and all fill was screened through 6 mm mesh (Hagerty and Murphy 1994:5-6).

In addition to the Cider site, a total of eight other sites in the immediate vicinity were collected and registered as a result of the MTO Stage 2 survey. These were Harvest (AhGx-332), Mitsu (AhGx-333), Spy (AhGx-334), Crab (AhGx-336), Snow (AhGx-337), MacIntosh (AhGx-338), and Courtland (AhGx-340).

In the spring and summer of 1993, the Stage 2 archaeological survey by MTO staff was extended to include a test pit survey of the previously unexamined portion of the abandoned orchard to the north (Hagerty and Murphy 1994:6). This resulted in the discovery of a number of additional sites. By the time of completion of the Stage 2 survey in 1993, a total of 26 known archaeological resources had been identified within the subject property. The known sites comprised 18 indeterminate prehistoric components, two Early Archaic components, four Late Archaic components, one Early Woodland

component, and one possible Middle Woodland component. Several of the sites found in 1993 were the focus of more detailed Stage 3 and/or 4 excavations by MTO staff in 1994 (Hagerty 1994).

At the time of the Stage 2 test pit survey, five positive test pits were grouped and registered as the Cider site (AhGx-339). These produced a total of five chert flakes and one diagnostic: a projectile point of the Late Archaic Crawford Knoll type (Figure 7c) (Hagerty and Murphy 1994:16). The five

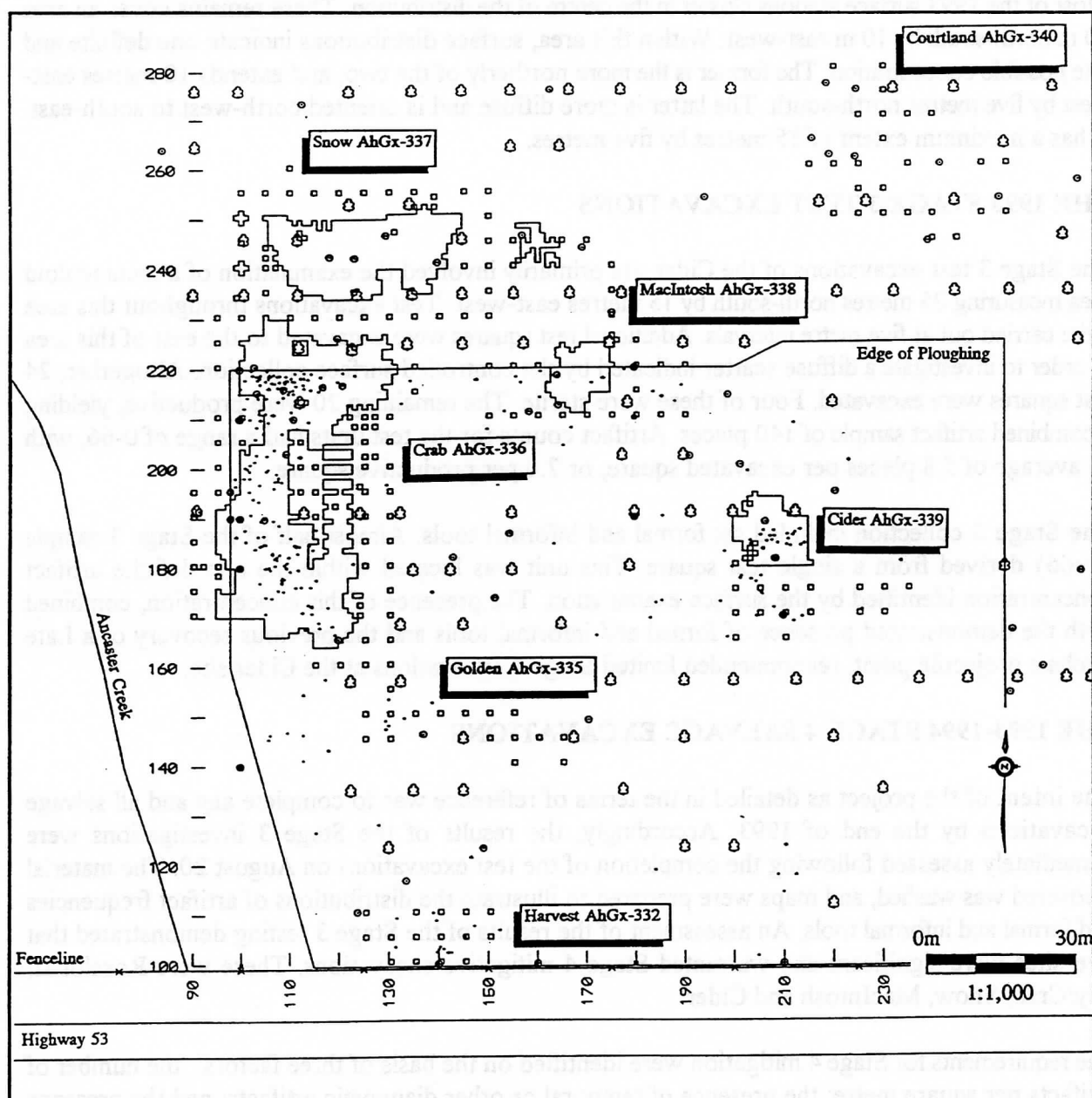


Figure 2 Excavation Limits and Surface Distributions of Sites in the South Portion of the Whaley Orchard

positive test pits were located in an area extending 35 m north-south and 25 m east-west.

The area containing Cider and several other sites was ploughed in the spring of 1993. Controlled surface collections of the Cider site recovered an additional 45 pieces of chipped lithic debitage (Hagerty and Murphy 1994:16). Based on the controlled surface pickup, including isolated outliers, the Cider site covers an area extending 45 m north-south and 65 m east-west.

Most of the 1993 surface stations cluster in the centre of the distribution. These remains cover an area 20 m north-south by 10 m east-west. Within this area, surface distributions indicate one definite and one possible concentration. The former is the more northerly of the two, and extends 10 metres east-west by five metres north-south. The latter is more diffuse and is oriented north-west to south-east. It has a maximum extent of 15 metres by five metres.

THE 1993 STAGE 3 TEST EXCAVATIONS

The Stage 3 test excavations of the Cider site primarily involved the examination of a rectanguloid area measuring 25 metres north-south by 15 metres east-west. Test excavations throughout this area were carried out at five metre intervals. Additional test squares were excavated to the east of this area in order to investigate a diffuse scatter indicated by the controlled surface collection. Altogether, 24 test squares were excavated. Four of these were sterile. The remaining 20 were productive, yielding a combined artifact sample of 140 pieces. Artifact counts for the test units had a range of 0-66, with an average of 5.8 pieces per excavated square, or 7.0 per productive square.

The Stage 3 collection included six formal and informal tools. Almost half of the Stage 3 sample (n=66) derived from a single test square. This unit was located within the one definite artifact concentration identified by the surface examination. The presence of this concentration, combined with the demonstrated presence of formal and informal tools and the previous recovery of a Late Archaic projectile point, recommended limited Stage 4 excavations at the Cider site.

THE 1993-1994 STAGE 4 SALVAGE EXCAVATIONS

The intent of the project as detailed in the terms of reference was to complete any and all salvage excavations by the end of 1993. Accordingly, the results of the Stage 3 investigations were immediately assessed following the completion of the test excavations on August 20. The material recovered was washed, and maps were prepared to illustrate the distributions of artifact frequencies and formal and informal tools. An assessment of the results of the Stage 3 testing demonstrated that five sites were significant and warranted Stage 4 mitigative excavations. These were Rosalot II, Spy/Crab, Snow, MacIntosh and Cider.

The requirements for Stage 4 mitigation were identified on the basis of three factors: the number of artifacts per square metre; the presence of temporal or other diagnostic artifacts; and the presence of burnt or heat treated chert artifacts. As a five metre spacing had been used for the Stage 3 testing, areas of potential concern for mitigation on the five sites were not identified to less than a five metre

interval.

The Stage 4 salvage excavations of the Cider site consisted of an expanded block excavation in the area where previous investigations had identified deposits of concern for mitigation. The salvage involved the excavation of a total of 159 individual one metre squares within a roughly rectangular area measuring 15 metres north-south by 15 metres east-west (Figure 3).

The salvage excavations were carried out between September 16 and October 1, 1993. A few additional squares were excavated June 28-29, 1994, beside units which had produced double digit artifact counts along the edge of the 1993 excavation limits.

The limits of the excavations encompassed the one definite artifact concentration recorded by the controlled surface collection (Figure 2). They also encompassed the southernmost positive two test pits from the Stage 2 survey, including the one which produced the Crawford Knoll point.

Nineteen of the 159 Stage 4 units were sterile. The remaining 140 positive units produced a total of 1612 artifacts. This represents an average of 10.1 artifacts per excavated unit, or 11.5 artifacts per positive unit. Distributions demonstrate that the majority of the remains were clustered in the central part of the excavated area (Figures 3). This correlates with the presence of a so-called ghost feature which was relatively rich in undiagnostic chert debitage (see below).

SUBSURFACE REMAINS

During the course of the Stage 4 excavations several chert flakes were observed in the topsoil-subsoil interface in a number of contiguous squares. The presence of these artifacts suggested the possible presence of a so-called "ghost feature" : a subsurface feature distinguished by the presence of cultural material in otherwise seemingly natural subsoil. This artifact distribution is located roughly in the centre of the excavated area (Figure 4).

As topsoil was removed by shovel in one metre units, the exposed subsoil in the area in question was cleaned by trowel. All artifacts observed were marked *in situ* and recorded by triangulation. In all, 53 artifact stations were recorded. These were distributed over nine contiguous one metre grid squares (Figure 4). Minor root and plough disturbance was visible at the topsoil-subsoil interface. However, the area of the feature was not located on or near one of the lines of apple trees and so appeared generally undisturbed.

Excepting a few outliers, the subsoil surface artifact scatter had dimensions approximately 260 cm north to south by 165 cm east to west. Cultural remains were notably absent from unit 209E-185N. It was thought that the absence of remains in this subsurface unit reflected the fact that the unit had inadvertently been excavated to a slightly greater depth than the surrounding squares. The initial surface examination thus seemed to indicate that the "ghost feature" would have little depth and could be attributed to trample.

The subsurface scatter of flakes was treated as if it were a feature in plan view. It was sectioned north to south along the 210E line and east to west along the 185N line. The southwest and northeast quadrants were removed first, with the remaining quadrants removed after the profiles had been drawn and photographed. Subsoil was excavated to a maximum depth of 60 cm. Flakes were recovered to a maximum depth of 43 cm into the subsoil, suggesting that this may have been a dug feature rather than a product of trampling.

At the lowest level of the excavation profile, the subsoil was a hard red clay. The plunging contours of this distinct clay layer, and some mixing of red clay and white sand immediately above the red clay, suggest that it may have been excavated to form a deep basin shaped pit feature. The pit fill above the red clay consisted of variously coloured sandy soil. Some of the colour differences noted in the excavation may have been due to the drying out of the soil. In any case, the distinctions were subtle and the feature

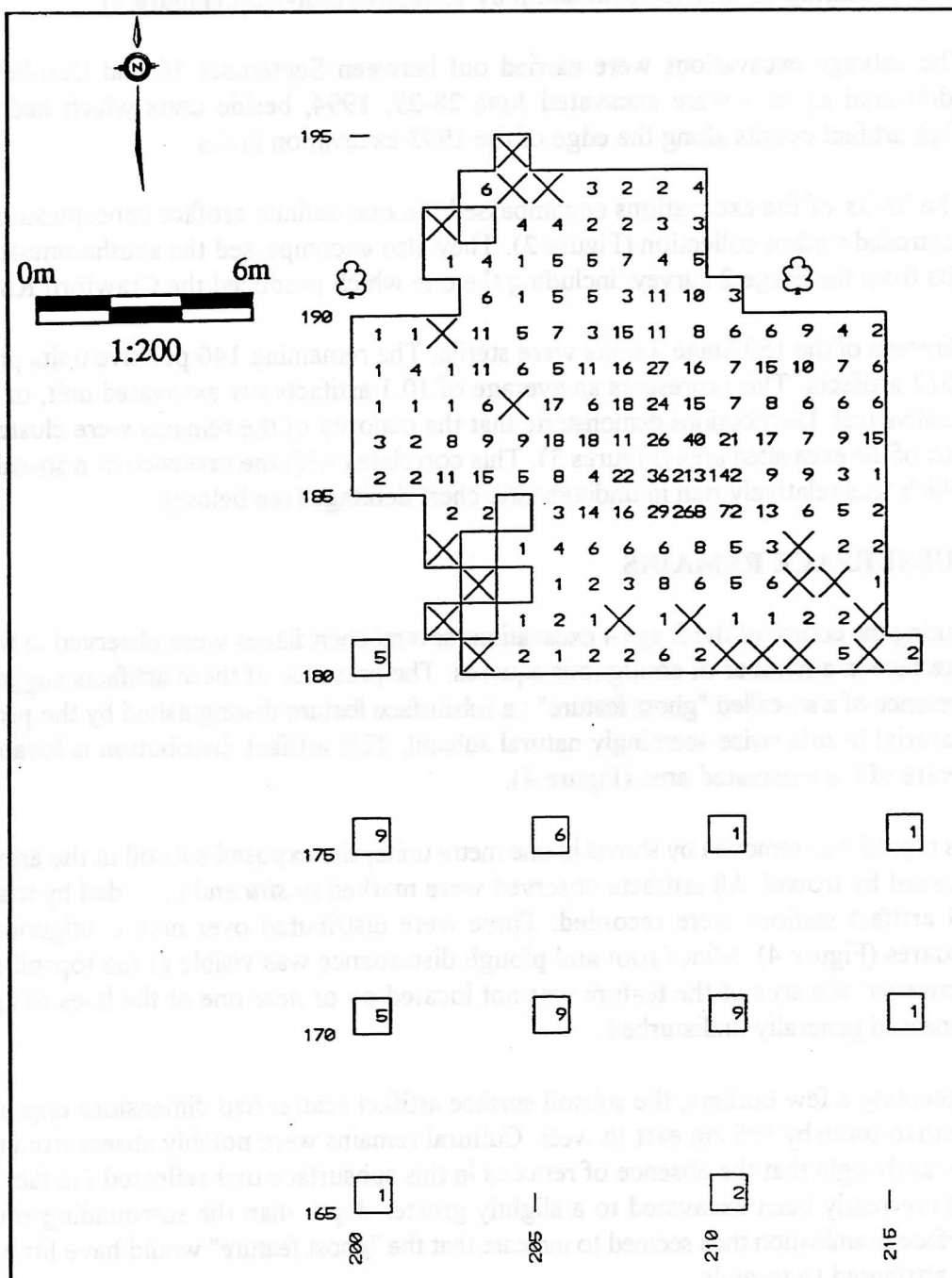


Figure 3 The Cider Site: Excavated Artifact Frequencies

cannot definitely be said to have been layered. However, there appears to have been a differentiation between top and bottom halves of the fill. A grey-white sandy soil was observed above the red clay, particularly in the central deepest portion of the profile. This soil appeared to be as much as 30 cm thick. It tended to blend into the upper levels rather than being sharply demarcated. No artifacts were recovered from this soil. The upper portion of the profile

consisted of brown to yellow-brown to light brown sandy soils all of which had some artifacts. This material had a maximum thickness of 48 cm in the centre, tending to feather out toward the edges of the feature. Some root disturbance and earthworm activity were evident and these disturbances may have contributed to the subtle colour differences noted in the upper part of the profile.

Information on the cultural remains recovered from the vicinity of the feature relative to the rest of the site is summarized in Table 1. The subsurface feature and associated topsoil artifact concentration involve nine contiguous one metre square units representing 5% of the excavated area of the site. These units produced a total of 614 specimens, a sample which constitutes fully 35% of all artifacts recovered from the Cider site. The vast majority of the specimens (n=609) are of Onondaga chert. The exceptions are four biface trimming flakes of Selkirk chert and one piece of shatter of Ancaster chert.

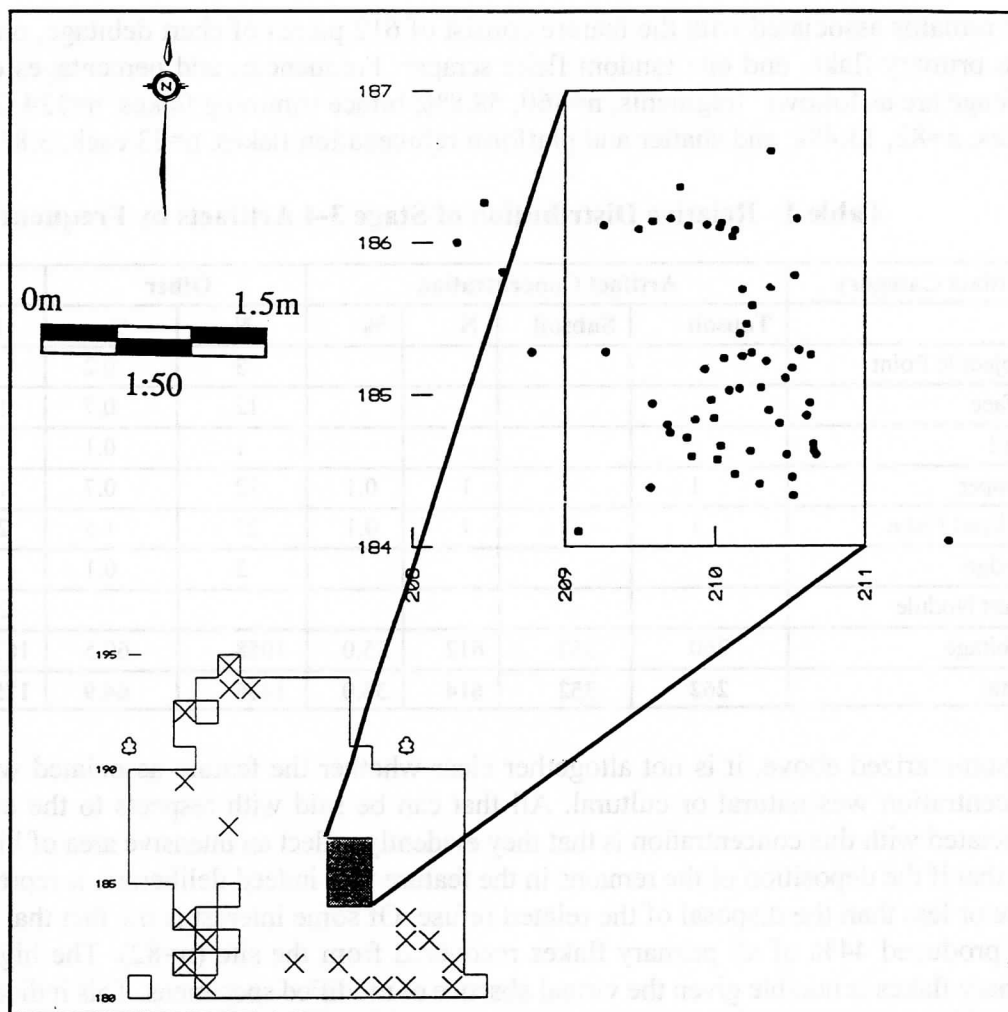


Figure 4 Location of Feature and Distribution of Remains on the Surface of the Subsoil

The remains associated with the feature consist of 612 pieces of chert debitage, one utilized flake on a primary flake, and one random flake scraper. Frequencies and percentages of the chipping debitage are as follows: fragments, n=360, 58.8%; biface trimming flakes, n=124, 20.1%; primary flakes, n=82, 13.4%; and shatter and platform rejuvenation flakes, n=23 each, 3.8%.

Table 1 Relative Distribution of Stage 3-4 Artifacts by Frequency

Artifact Category	Artifact Concentration				Other		Total	
	Topsoil	Subsoil	N	%	N	%	N	%
Projectile Point					3	0.2	3	0.2
Biface					12	0.7	12	0.7
Drill					1	0.1	1	0.1
Scraper	1		1	0.1	12	0.7	13	0.7
Utilized Flake	1		1	0.1	27	1.5	28	1.6
Wedge					2	0.1	2	0.1
Chert Nodule							21	1.2
Debitage	260	352	612	35.0	1058	60.5	1670	95.4
Total	262	352	614	35.0	1136	64.9	1750	100.0

As summarized above, it is not altogether clear whether the feature associated with this artifact concentration was natural or cultural. All that can be said with respects to the cultural remains associated with this concentration is that they evidently reflect an intensive area of biface reduction, and that if the deposition of the remains in the feature was indeed deliberate, it represented nothing more or less than the disposal of the related refuse. Of some interest is the fact that this area of the site produced 44% of all primary flakes recovered from the site (n=82). The high frequency of primary flakes is notable given the virtual absence of modified specimens. This indicates an apparent lack of interest in manufacturing primary flakes as blanks for tool manufacture.

ARTIFACT ANALYSIS

Data on the artifact sample recovered from the Stage 3-4 excavations of the Cider site are summarized by frequency and weight in Tables 2-3. As indicated, the excavations recovered a total sample of 1750 specimens. All consist of chipped lithics.

The sample is dominated by debitage. This constitutes 1670 specimens, representing 95.4% of the sample by number and 77.7% by weight. Formal and informal tools represent a small minority of the sample (n=57, 3.3% by number). These are dominated by utilized flakes, which constitute fully 49% of all definite tools and tool fragments.

Raw materials are dominated by Onondaga chert which constitutes 90.3% of the sample by number and 66.4% by weight. This is followed by Ancaster chert, which constitutes 5.0% of the sample by number and 15.6% by weight. Other materials (Haldimand chert, Selkirk chert, till cherts and unknown) are barely represented. Twenty-two of the 1750 specimens recovered are of burnt chert.

These include one end scraper and 21 pieces of debitage.

Table 2 The Cider Site: Artifact Summary of Stage 3-4 Excavations by Frequency

Artifact Description		Chert Types						Total	
		Onondaga	Haldimand	Ancaster	Selkirk	Till	Unknown	n	%
Projectile Points		2					1	3	0.2
Bifaces		11					1	12	0.7
Drills		1						1	0.1
Scrapers		12		1				13	0.7
Utilized Flakes		25					3	28	1.6
Wedges		2						2	0.1
Chert Nodules		1					20	21	1.2
Debitage		1527	9	87	10	20	17	1670	95.4
Total	n	1581	9	88	10	20	42	1750	100.0
	%	90.3	0.5	5.0	0.6	1.1	2.4	100.0	

Table 3 The Cider Site: Artifact Summary of Stage 3-4 Excavations by Weight

Artifact Description		Chert Types						Total	
		Onondaga	Haldimand	Ancaster	Selkirk	Till	Unknown	grams	%
Projectile Points		5						5	0.3
Bifaces		99					4.5	103.5	5.6
Drills		2.7						2.7	0.1
Scrapers		52.8		1.3				54.1	2.9
Utilized Flakes		47					7.1	54.1	2.9
Wedges		5.5						5.5	0.3
Chert Nodules		91.9					97.4	189.3	10.2
Debitage		929.5	6.7	288.9	3.5	113.8	101.7	1444.1	77.7
Total	N	1233.4	6.7	290.2	3.5	113.8	210.7	1858.3	100.0
	%	66.4	0.4	15.6	0.2	6.1	11.3	100.0	

Projectile Points

Four projectile points were recovered from the Cider site, including the one found in test pitting by MTO staff. Distributions are illustrated in Figure 5. The most unusual of the specimens is a large side notched projectile point of the Early Archaic Big Sandy type (Figure 7a). It is of an exotic material which resembles Knife River chalcedony. This specimen is complete. The blade is slightly

asymmetrical and is lanceolate in shape, with slightly convex lateral edges. The notches are well developed and the tangs are squared. The basal margin is convex. This artifact has a total length of 59 mm, with a blade length and haft element length of 43 mm and 16 mm, respectively. The shoulder width, inter-notch width and basal width are 26 mm, 21 mm and 30 mm, respectively. The thickness is 7 mm.

Points of the Big Sandy type date to the Early Archaic period, ca. 10000-8000 B.P. (Justice 1987:60-62). The present specimen was recovered from the southwestern portion of the Cider site. No other material of this type was represented at the site, and this specimen most likely represents an isolated find unrelated to the occupation of the site.

The second projectile point is of the Eva type (Figure 7d). It is missing the distal portion of the blade, and one tang is damaged. This specimen is basally notched, with deep, "U"-shaped notches typical of the type. The blade is trianguloid, with straight lateral edges. This artifact has an incomplete length of 30 mm, with a haft element length of 8 mm. The shoulders are prominently barbed. The shoulder width and inter-notch width are 28 mm and 11 mm, respectively. The thickness is 5 mm.

Points of the Eva I type date to the early portion of the Middle Archaic period, ca. 8000-6000 B.P. (Justice 1987:60-62). The present specimen was recovered from the northern portion of the site. It is not associated with any clustering of artifacts, and may represent an isolated find unrelated to the occupation of the site.

The Stage 4 excavations recovered one projectile point of the Crawford Knoll type (Figure 7b). This specimen supplements a point of the same type recovered by the Stage 2 test pitting of the site (Figure 7c). Both points are small, thin and trianguloid in outline, with straight blade edges and bases. The specimen recovered in the excavations has a total length of 27 mm, with a blade length and haft element length of 21 mm and 5 mm, respectively. The shoulder width, inter-notch width and basal width are 14 mm, 9 mm and 11 mm, respectively, and the thickness is 4 mm. The specimen recovered in the test pitting closely resembles the first point, but is slightly wider. It has a slightly damaged tip, with a projected total length of 24 mm, with a blade length and haft element length of 18 mm and 6 mm, respectively. The shoulder width, inter-notch width and basal width are 18 mm, 12 mm and 16 mm, respectively, and the thickness is 4 mm.

The Crawford Knoll point recovered in the excavations was found in the northwestern part of the block excavations, approximately seven metres northwest of the point recovered in the Stage 2 test pitting. The latter was found just a few metres south of the location of the ghost feature.

Miscellaneous Bifaces

This category subsumes 13 specimens: a drill; four finished bifaces or preforms; and eight rough bifaces and biface fragments. All but one are of Onondaga chert. Distributions are illustrated in Figure 5. Pertinent data are detailed in Table 4.

The drill is complete and features a short expanding stem (Figure 7e). It has a length, width and thickness of 45 mm, 13 mm and 6 mm, respectively. It was found in Square 211E-184N, in the south-central part of the excavations.

Table 4 The Cider Site Bifaces

Provenience	Portion	Chert	Shape	Dimensions (mm)			Weight (g)
				Length	Width	Thickness	
Finished Bifaces							
204E-180N SS05 00-17	Complete	Onondaga	Ovate	53	39	9	0
203E-189N SS24 00-26	Tip	Onondaga	Indeterminate	12+	15+	2	0.5
207E-184N SS23 00-31	Tip	Onondaga	Indeterminate	26+	26+	5	3.4
208E-191N SS09 00-30	Base	Onondaga	Indeterminate	11+	16+	6	1.4
Rough Bifaces							
211E-187N SS12 00-21	Complete	Onondaga	Irregular	55	39	16	26.9
210E-165N SS01 00-28	Base	Unknown	Indeterminate	29+	29	8	4.5
210E-185N SS01 00-25	Fragment	Onondaga	Indeterminate	36	20	15	7.8
211E-181N SS07 00-25	Base	Onondaga	Ovate	45+	32	18	25.9
211E-187N SS12 00-21	Fragment	Onondaga	Indeterminate	30	13	12	3.4
211E-188N SS17 00-28	Fragment	Onondaga	Indeterminate	50	40	18	18.9
212E-184N SS23 00-29	Fragment	Onondaga	Indeterminate	70	10	7	1.3
212E-185N SS03 00-23	Fragment	Onondaga	Indeterminate	43	40	13	9.5

Two of the finished specimens are tip fragments. One of these is from what appears to have been a small, thin biface, possibly a Crawford Knoll point (Figure 7f). It was found in Square 203E-189N, in the same square as the Crawford Knoll point excavated in 1993. The other is from a medium to large sized biface (Figure 7g). It derived from Square 207E-184N, in the south-central part of the site.

A third finished biface is represented by a basal fragment (Figure 7h). It features a slightly convex basal margin, with a width and thickness of 16 mm and 6 mm, respectively. It was recovered from Square 203E-191N, in the north-central part of the site. A fourth specimen is ovate in form and features only discontinuous marginal bifacial retouch (Figure 7j). This artifact probably functioned as a scraper, as the retouch formed a continuous bevelled edge around the basal and lateral margins. It was recovered from Square 204E-180N, in the southwestern part of the block excavations.

One of the rough specimens is complete: it is irregular in form and is of poor quality Onondaga chert (Figure 7k). Another is a basal fragment of an ovate biface of good quality Onondaga chert (Figure 7l). A further two specimens consist of outres passés of poor quality Onondaga chert. The remaining four are miscellaneous fragments: one of good quality Onondaga, two of poor quality Onondaga, and one of a nondescript indeterminate chert.

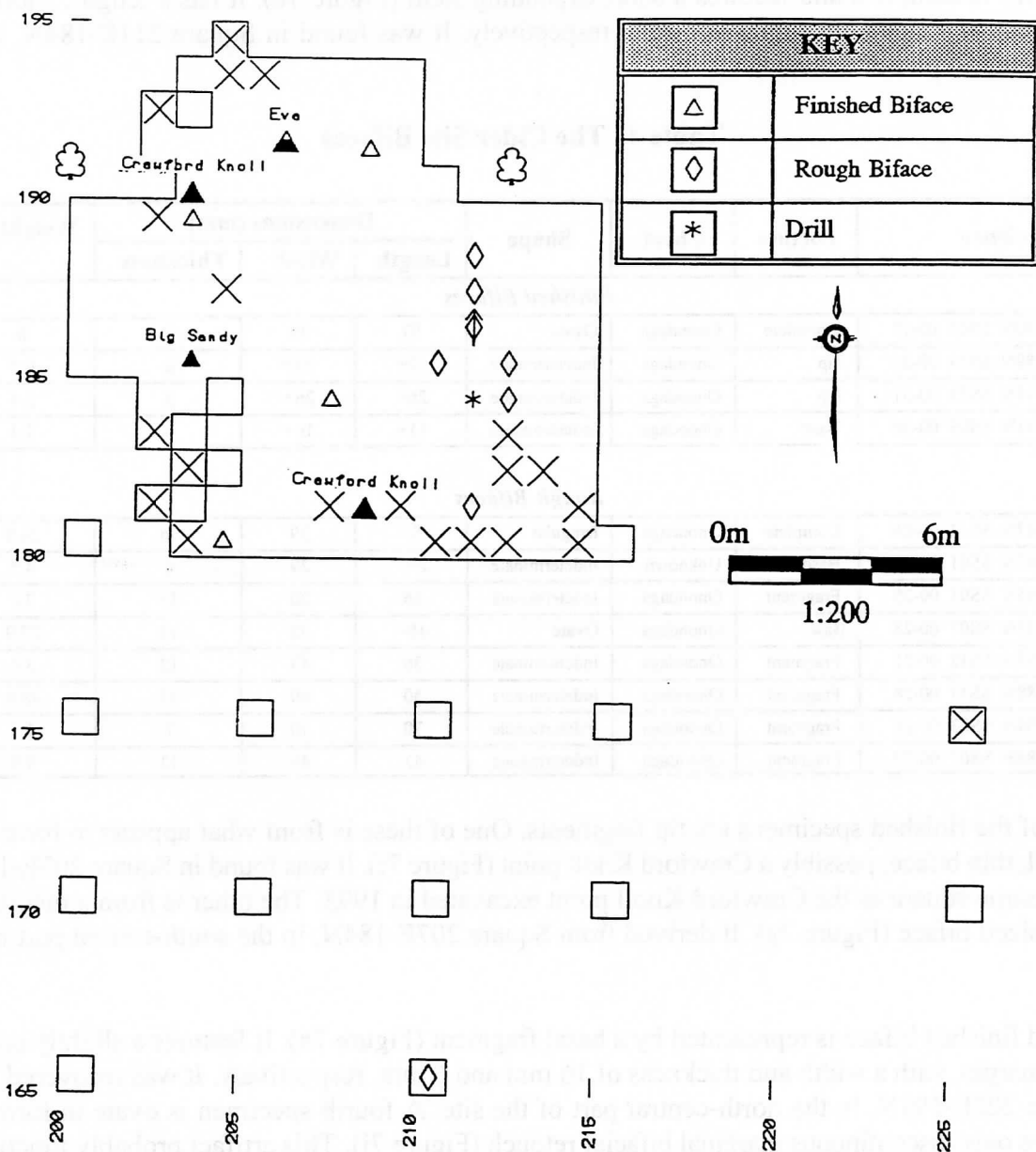


Figure 5 Distribution of Projectile Points and Other Bifaces

Seven of the eight rough bifaces cluster in the south-central and southeastern part of the block excavations. These are distributed around the periphery of the concentration associated with the feature. The remaining specimen is from a test unit 15 metres to the south of the block excavations.

Scrapers

Thirteen scrapers were recovered from the site. These include one end scraper, one spokeshave scraper, and 11 random flake scrapers. One of the latter is of Ancaster chert; all of the remaining scrapers are of Onondaga chert. Pertinent data are detailed in Table 5. Distributions are illustrated in Figure 6.

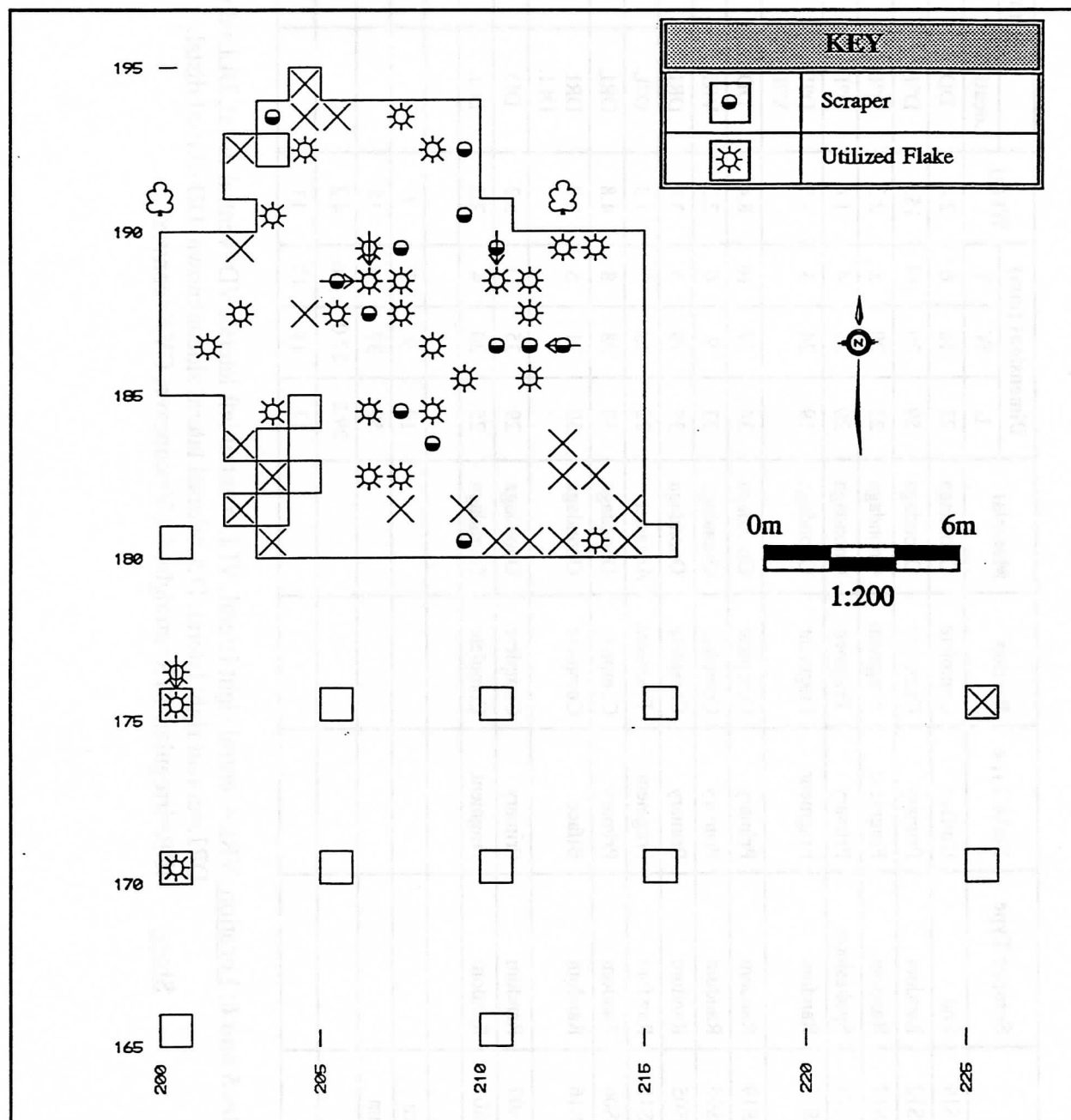


Figure 6 Distribution of Scrapers and Utilized Flakes

Table 5 The Cider Site Scrapers

Provenience	Scraper Type	Flake Type	Portion	Material	Dimensions (mm)			Wt (g)	Retouched Edge		
					L	W	T		Location	Length	Angle (°)
203E-193N SS19	End	Uniface	Complete	Onondaga	22	16	6	2.4	DD	18	60
206E-187N SS12	Random	Primary	Complete	Onondaga	59	20	14	15.1	D?L	15	45
206E-188N SS17	Random	Fragment	Fragment	Onondaga	22	20	5	2.5	D?L	15	45
207E-184N SS23	Spokeshave	Primary	Fragment	Onondaga	20	25	4	1.4	D?L	9	60
207E-189N SS23	Random	Fragment	Fragment	Onondaga	19	24	3	1.7	D?L	15	55
									V?L	20	60
208E-183N SS19	Random	Primary	Complete	Onondaga	34	37	10	8.4	DD	18	45
209E-180N SS05	Random	Primary	Complete	Onondaga	33	9	6	2.2	VRL	12	50
209E-190N SS05	Random	Primary	Complete	Onondaga	35	19	5	3.9	DRL	27	50
209E-192N SS15	Random	Fragment	Fragment	Ancaster	22	12	5	1.3	D?L	5	45
210E-186N SS06	Random	Primary	Complete	Onondaga	30	28	8	4.8	DRL	14	50
210E-188N SS16	Random	Biface	Complete	Onondaga	30	21	5	2.9	DRL	29	45
									DLL	20	60
211E-186N SS07	Random	Primary	Complete	Onondaga	29	35	11	5.3	DD	10	50
211E-186N SS07	Random	Fragment	Complete	Onondaga	25	20	4	2.2	D?L	10	60
range -minimum					19	9	3	1			
range -maximum					59	37	14	15			
mean					29.2	22.0	6.6	4.2			
n					13	13	13	13			

Key for Tables 5 and 6: Location VRL=ventral right lateral, VLL=ventral left lateral, VD=ventral distal, DLL=dorsal left lateral, DRL=dorsal right lateral, D?L=dorsal lateral sideunknown, DD=dorsal distal.

Shape

IRR=irregular, STR=straight, CCV=concave, CVX=convex.

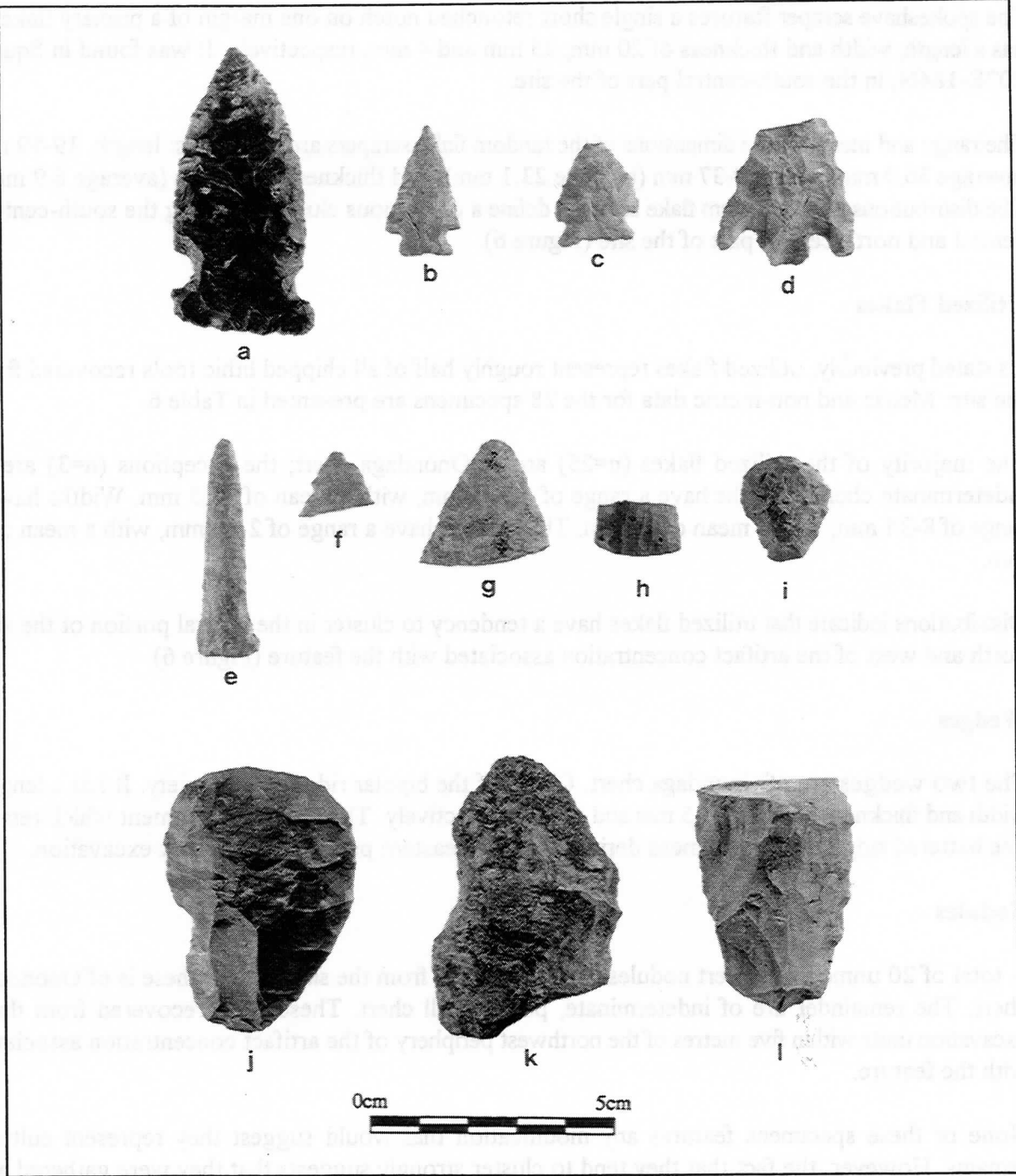


Figure 7 The Cider Site: miscellaneous chipped lithic artifacts.

The single end scraper is small and well made (Figure 7i). It has a length, width and thickness of 22 mm, 18 mm and 6 mm, respectively. The lateral edges contract towards the proximal end, indicating that the specimen was hafted. It was found in Square 203E-193N, in the northwest part of the site.

The spokeshave scraper features a single short retouched notch on one margin of a primary flake. It has a length, width and thickness of 20 mm, 25 mm and 4 mm, respectively. It was found in Square 207E-184N, in the south-central part of the site.

The range and mean for the dimensions of the random flake scrapers are as follows: length, 19-59 mm (average 36.0 mm); width, 9-37 mm (average 23.1 mm); and thickness, 3-14 mm (average 6.9 mm). The distributions of the random flake scrapers define a continuous cluster spanning the south-central, central and north-central part of the site (Figure 6).

Utilized Flakes

As stated previously, utilized flakes represent roughly half of all chipped lithic tools recovered from the site. Metric and non-metric data for the 28 specimens are presented in Table 6.

The majority of the utilized flakes (n=25) are of Onondaga chert; the exceptions (n=3) are of indeterminate chert. Lengths have a range of 10-45 mm, with a mean of 23.5 mm. Widths have a range of 8-34 mm, with a mean of 28 mm. Thicknesses have a range of 2-10 mm, with a mean of 5 mm.

Distributions indicate that utilized flakes have a tendency to cluster in the central portion of the site, north and west of the artifact concentration associated with the feature (Figure 6).

Wedges

The two wedges are of Onondaga chert. One is of the bipolar ridge-point variety. It has a length, width and thickness of 20 mm, 15 mm and 4 mm, respectively. The other is a fragment which retains one battered ridge. Both specimens derived from the eastern portion of the block excavation.

Nodules

A total of 20 unmodified chert nodules were recovered from the site. One of these is of Onondaga chert. The remainder are of indeterminate, possibly till chert. These were recovered from three excavation units within five metres of the northwest periphery of the artifact concentration associated with the feature.

None of these specimens features any modification that would suggest they represent cultural remains. However, the fact that they tend to cluster strongly suggests that they were gathered and cached with the intent to eventually make use of them as raw material in chipped lithic reduction.

Chipping Debitage

Tables 7 and 8 summarize data on chert debitage at the site. As indicated, the sample is dominated by flake fragments (n=777, 46.5%), followed by biface thinning flakes (n=487, 29.2%) and shatter

(n=196, 11.7%). The first two categories indicate that biface manufacture was an important activity at the site. Distributions further indicate that the central portion of the site which equates with the artifact concentration associated with the subsurface feature was the primary locus of this activity: it produced fully 37% of all chipping debitage recovered.

Table 6 The Cider Site Utilized Flakes

Provenience	Flake Type	Material	Dimensions (mm)			Wt (g)	Utilized Edge		
			L	W	T		Location	Length	Shape
200E-170N SS01	Primary	Onondaga	45	34	10	10.9	STR	20	STR
200E-175N SS01	Secondary	Onondaga	10	13	4	0.4	CCV	9	CCV
200E-175N SS01	Primary	Onondaga	34	17	6	2.4	STR CVX	24 34	STR CVX
201E-186N SS07	Primary	Onondaga	26	27	7	0	DLL	15	CVX
202E-187N SS13	Fragment	Onondaga		23	4	2.5	DLL DRL	21 20	CVX CCV
203E-184N SS24	Primary	Onondaga	32	22	6	3.2	DLL VLL	18 11	STR CCV
203E-190N SS04	Fragment	Unknown	23	16	6	2.5	D?L	10	STR
204E-192N SS15	Primary	Onondaga	24	16	6	2.6	DRL	10	STR
205E-187N SS11	Fragment	Onondaga	24	25	6	3.5	D?L	8	STR
206E-182N SS12	Fragment	Unknown	22	18	7	2.1	D?L	10	IRR
206E-184N SS22	Fragment	Onondaga	27	18	4	1.1	D?L	8	IRR
206E-188N SS17	Fragment	Unknown	22	14	10	2.5	D?L	10	STR
206E-188N SS17	Fragment	Onondaga	18	12	5	0.7	D?L	6	IRR
207E-182N SS13	Primary	Onondaga	21	25	5	1.8	VRL	17	CVX
207E-187N SS13	Primary	Onondaga	23	16	5	1.3	VLL	14	CCV
207E-188N SS18	Secondary	Onondaga	12	21	5	0.7	DD	14	STR
207E-193N SS18	Primary	Onondaga	45	16	6	3.7	VLL	10	STR
208E-184N SS24	Primary	Onondaga	20	19	4	1	DLL	10	CVX
208E-186N SS09	Fragment	Onondaga	18	15	4	0.9	D?L	6	IRR
208E-192N SS14	Fragment	Onondaga	19	17	3	1	D?L	10	STR
209E-185N SS05	Primary	Onondaga	31	20	6	1.9	DRL	19	STR
210E-188N SS16	Fragment	Onondaga	22	19	3	1.2	D?L	22	STR
211E-185N SS02	Fragment	Onondaga	35	17	5	2.7	DRL	20	STR
211E-187N SS12	Fragment	Onondaga	17	12	6	0.9	D?L	10	STR
211E-188N SS17	Fragment	Onondaga	15	13	2	0.6	D?L	13	STR
212E-189N SS23	Fragment	Onondaga	17	8	2	0.4	D?L	9	STR
213E-180N SS04	Secondary	Onondaga	19	24	2	0.9	D?L	19	CVX
213E-189N SS24	Fragment	Onondaga	14	12	2	0.7	VD	12	STR
range-minimum			10	8	2	0			
range-maximum			45	34	10	10.9			
mean			23.5	18	5	1.9			
n			27	28	28	28			

The majority of the debitage is of Onondaga chert. It is represented by 1527 of the pieces, representing 91.4% of the sample by number and 64.3% by weight. The only other identifiable material present in any quantity is Ancaster chert. It is represented by 87 pieces constituting 5.0% of the sample by number and 20.0% by weight.

The distributions of Onondaga and Ancaster cherts tend to be mutually exclusive. Onondaga debitage is present throughout the site, and clusters in the centre, in the area of the feature. Ancaster debitage is absent from the centre of the site, and tends to cluster in the southeastern corner and the western periphery.

Table 7 The Cider Site: Debitage Totals by Frequency

Artifact Description		Chert Types						Total	
		Onondaga	Haldimand	Ancaster	Selkirk	Till	Unknown	n	%
Primary Decortification		1						1	0.1
Platform Rejuvenation		23						23	1.4
Primary Flakes		180	3	2				185	11.1
Biface Thinning		469	4	5	8		1	487	29.2
Shatter		99		63		20	14	196	11.7
Pot Lids							1	1	0.1
Fragments		755	2	17	2		1	777	46.5
Total	n	1527	9	87	10	20	17	1670	100.0
	%	91.4	0.5	5.2	0.6	1.2	1.0	100.0	

Table 8 The Cider Site: Debitage Totals by Weight

Artifact Description		Chert Types						Total	
		Onondaga	Haldimand	Ancaster	Selkirk	Till	Unknown	grams	%
Primary Decortification		2						2.0	0.1
Platform Rejuvenation		1.7						1.7	0.1
Primary Flakes		225.7	5.5	16.5				247.7	17.2
Biface Thinning		251.2	0.8	3.3	3.1		0.7	259.1	17.9
Shatter		235.5		252.3		113.8	100.6	702.2	48.6
Pot Lids							0.2	0.2	0.0
Fragments		213.4	0.4	16.8	0.4		0.2	231.2	16.0
Total	n	929.5	6.7	288.9	3.5	113.8	101.7	1444.1	100.0
	%	64.4	0.5	20.0	0.2	7.9	7.0	100.0	

DISCUSSION AND CONCLUSIONS

As detailed above, excavations revealed that the Cider site consists of one and possibly several prehistoric components within a total area of less than 200 square metres in extent. The central portion of the site comprises a subsurface feature associated with a concentration of undiagnostic cultural material. This area produced a disproportionate amount of the archaeological remains recovered from the site, indicating that much of the material present relates to a single occupational event.

The combined collections from the site include a projectile point of the Early Archaic Big Sandy type, a point of the Middle Archaic Eva type, and two projectile points of the Late Archaic Crawford Knoll type. None of the diagnostics were directly associated with the concentration. The Big Sandy and Eva points may represent isolated hunting losses unrelated to the formal occupation(s) of the Cider site, although it is also possible that they relate to temporary occupations. The presence of the Crawford Knoll points indicates that the site minimally included a Small Point occupation of the Late Archaic period. Comparisons indicate that this occupation dated ca. 3300-2900 B.P. (Ellis et. al. 1990: 106).

Research suggests that the peoples of the Small Point Late Archaic in southwestern Ontario practised a more broadly based subsistence pattern than their Broad Point predecessors, with a stronger lakeshore orientation (Ellis et al. 1990: 106). Nevertheless, the Small Point component of the Cider site probably represented an interior hunting camp. As such, it may well have followed a pattern of resource exploitation recognized for somewhat earlier Broad Point components at the nearby Spy & Crab and Snow sites, which were interpreted as probable fall camps orientated to the seasonal exploitation of food resources in mast forests, including nut gathering and the hunting of deer (D.R. Poulton & Associates 1997a,b).

Attempts to correlate the Crawford Knoll points with undiagnostic remains from the Cider site are complicated by the fact that the Small Point chipped lithic tool kit is generally nondescript. That said, Cider produced a number of formal artifacts which may well be attributable to the Small Point occupation of the site. These include a biface or point tip found in association with one of the Crawford Knoll points, the expanding based drill, and the end scraper. Artifacts similar to the latter two specimens have been recovered from Small Point sites, including Crawford Knoll (Kenyon 1980) and the Haldimand Complex features of the Bruce Boyd site (Spence and Fox 1986).

The relationship between the Small Point occupation and the artifact concentration associated with the feature is more problematic. No diagnostic artifacts whatsoever were recovered in association with that feature. Indeed, finished and unfinished tools are conspicuous by their absence, with the exception of the utilized flake and random flake scraper. However, rough bifaces, utilized flakes and scrapers were recovered in quantity in close proximity. Ironically, the best evidence for an association between the biface reduction area of the feature and cultural remains from the surrounding area is the negative correlation between these various remains. The very fact that they tend to be mutually exclusive suggests contemporaneity. In short, the patterning in the distributions can most easily be interpreted as evidence in favour of the presence of different activities associated with the same

occupation.

The relatively crude rough bifaces recovered from the Cider site do not appear to have exact parallels in other excavated Small Point Late Archaic assemblages in the region. However, it is possible that these artifacts pertain to a pattern which has been observed for Small Point sites in southwestern Ontario: serial biface reduction (Knudson 1979: 39) (Muller 1989:10). This reduction process initially involved the production of relatively massive bifaces which were then reduced over a period of time to smaller preforms, potentially serving various functions before they were finally rendered into finished projectile points. That said, it remains to be determined whether these artifacts indeed relate to the Crawford Knoll occupation of the Cider site. With two exceptions, the rough bifaces recovered from Cider were of poor quality Onondaga chert, in contrast to the finished Crawford Knoll points which were of high quality Onondaga. This by no means precludes the possible association of the rough bifaces with the Small Point component, but it does underscore the difficulties in interpreting undiagnostic remains in a potentially multi-component context.

As a footnote to the above, it should be mentioned that the degree to which patterns of prehistoric behaviour are interpretable depends on any number of factors. Among the most frequently recognized of these are the extent and nature of the cultural remains, and the degree and nature of subsequent disturbance. Archaeologists active in the Ancaster area are all too familiar with the problems in interpreting prehistoric sites owing to the concentration of prehistoric remains, the prevalence of multi-component sites, and the inevitable effects that agriculture and other factors have had on most sites available in the archaeological record.

It is worth noting that the Cider site and other sites located within the Whaley Orchard offer certain advantages in this regard. One is that the area in question contains a large number of sites subjected to varying degrees of excavation by D.R. Poulton & Associates and the Ministry of Transportation. Another is that although the area containing these sites has been ploughed in the past, it was probably never under cultivation for an extended period of time and was only ever ploughed by horse. This is suggested by the fact that research indicates the property has been in orchard since the mid 19th century (Hagerty 1994:1).

The above circumstances afford two advantages to the interpretation of the Cider and other sites excavated within the Whaley Orchard. One is that the sites in question have been disturbed to a lesser degree than most other prehistoric sites excavated in the Ancaster area, many of which have been under cultivation for a century or more. The other is that the sites in question were exposed to private artifact collectors for a much more limited period of time than is the norm for this area, where many sites have been subjected to surface collection for generations. The implication of all of these factors is that Cider and other sites within the Whaley Orchard property have the potential to provide a unique perspective on the archaeology of small and medium-sized prehistoric sites in the area and the region.

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